Nokia Customer Care
RH-30/RH-31 Series Cellular Phones

General Information

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RH-30/RH-31 Product Selection

The **RH-30/RH-31** is a Triple Band transceiver unit designed for the GSM850/GSM900, GSM1800 and GSM1900 (EDGE) networks. It is a GSM850/GSM900 phase 2 power class 4 transceiver (2W) and a GSM1800/1900 power class 1 (1W) transceiver. It is also EDGE850/900 power class E2 (0.5W/27dBm) and EDGE1800/1900 power class E2 (0.4W/26dBm) transceiver. The product share the 1AO radio module and differ in details on mechanics. Refer to the diagrams on the following pages.

RH-30/RH-31 Product and modules

Name	Type code	Material code/ module type	Module code
Basic transceiver	RH-30/RH-31	0504790	
Radio module	1AO		0202020
UI board			0202023
Mechanics assembly parts			0262937
Software module (basic SW)			On Flash memory

Figure 1: RH-30/RH-31 transceiver

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Accessories List

Batteries	Product code:
Battery BLD-3 780mAH Li-Ion	0670334
Chargers	**Product code:**
AC Travel Charger ACP-7E (EUR) 207-253 Vac	0675144
AC Travel Charger ACP-7U (US) 108-132 Vac	0675143
AC Travel Charger ACP-7C (China) 198-242 Vac	0675158
AC Travel Charger ACP-7X (UK) 207-253 Vac	0675145
AC Travel Charger ACP-7H (Hong Kong) 180-220 Vac	0675146
AC Travel Charger ACP-7A (AUS) 216-264 Vac	0675148
Performance Travel Charger ACP-8E (EUR) 90-264 Vac	0675195
Performance Travel Charger ACP-8K (Korea) 90-264 Vac	0675199
Performance Travel Charger ACP-8X (UK) 90-264 Vac	0675197
Performance Travel Charger ACP-8U (US) 90-264 Vac	0675196
Performance Travel Charger ACP-8C (China) 90-264 Vac	0675211
Performance Travel Charger ACP-8A (Australia) 90-264 Vac	0675214
ACP-12E Travel Charger (EUR) 90-264 Vac	0675294
ACP-12X Travel Charger (UK) 90-264 Vac	0675296
ACP-12U Travel Charger (US) 90-264 Vac	0675303
ACP-12UB Travel Charger (Brazil) 90-264 Vac	0675203
ACP-12G Travel Charger (US) 90-264 Vac	0675295
ACP-12C Travel Charger (China) 90-264 Vac	0675297
ACP-12A Travel Charger (Australia) 90-264 Vac	0675300
ACP-12AR Travel Charger (Argentina) 90-264 Vac	0675298
Portable and Office Accessories	**Product code:**
Headset HS-5	0694167
Stereo Headset HDS-3	0694093
Boom Headset HDB-4	0694094
Inductive Loopset LPS-4	0630443
Retractable Headset HS-10	0694126
Music Stand DT-1	0694119
Battery Charging Stand DDC-1	0675243
Connectivity Desk Stand DCV-14	0675323

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Portable and Office Accessories	**Product code:**
Connectivity Adapter Cable DKU-5	0730235
TTY-Adapter HDA-10	0694115
Wireless Audio Adapter AD-5B	0694149
Mobile Accessories: Car	**Product code:**
Mobile charger LCH-9	0675120
Mobile charger LCH-12	0675328
Mobile Holder MBC-15S	0650041
Headrest Handsfree BHF-1	0694102
Antenna Coupler AXF-15S	0750189
Privacy Handset HSU-3	0650039
Mobile Accessories: Carkit 143 (Americas)	**Product code:**
Handsfree unit HFU-4	0694103
Mobile Holder MBC-15S	0650041
Mounting plate MKU-1	0620036
Handsfree microphone HFM-8	0690016
External HF speaker HFS-12	0629009
System cable SCU-4	0630471
Power cable PCU-4	0630478
Boom headset HDB-4	0694094
Antenna Coupler AXF-15S	0750189
Mobile Accessories: Carkit 126	**Product code:**
Handsfree unit HFU-4	0694103
Mobile Holder MBC-15S	0650041
Mounting plate MKU-1	0620036
Handsfree microphone HFM-8	0690016
External HF speaker HFS-12	0629009
System cable SCU-4	0630471
Power cable PCU-4	0630478
Privacy handset HSU-3	0650039
Headrest handsfree BHF-1	0694102
Boom headset HDB-4	0694094
Antenna Coupler AXF-15	0750189

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Technical Specifications

General specifications of transceiver RH-30/RH-31

Unit	Dimensions (mm) (L x W x T)	Weight (g)	Volume (cm^3)
Transceiver with BLD-3 780mAh Li-Ion battery pack	107,5x 45,1 x 20,8	90	81

Table 1: Main RF characteristics

Parameter	Unit and value
Cellular system	GSM850/EGSM900/GSM1800/GSM1900
RX Frequency range	GSM850: 869...894 MHz EGSM900: 925 ... 960 MHz GSM1800: 1805...1880 MHz GSM1900: 1930...1990 MHz
TX Frequency range	GSM850: 824...849 MHz EGSM900: 880 ... 915 MHz GSM1800: 1710 ...1785 MHz GSM1900: 1850 ...1910 MHz
Duplex spacing	GSM850: 45MHz EGSM900: 45 MHz GSM1800: 95 MHz GSM1900: 80 MHz
Channel spacing	200 kHz
Number of RF channels	GSM850: 124 EGSM900: 174 GSM1800: 374 GSM1900: 300
Output Power	GSM850/EGSM900: GSMK 5...33 dBm GSM850/EGSM900: 8-PSK 5...27 dBm GSM1800: GSMK 0...30 dBm GSM1800: 8-PSK 0...26 dBm GSM1900: GSMK 0...30 dBm GSM1900: 8-PSK 0...26 dBm
Number of power levels GSMK	GSM 850: 15 EGSM900: 15 GSM1800: 16 GSM1900: 16
Number of power levels 8-PSK	GSM850: 12 EGSM900: 12 GSM1800: 14 GSM1900: 14

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Battery endurance

Nokia measurements of the operational times in GSM 850 are:

Talk time*	
Battery : BLD-3	up to 2 – 2.5hours
Talk time variations:	
Integrated Handsfree (IHF) talk time	up to 1 h 45 min – 2 h 15 min
Standby time*	
Battery: BLD-3	up to 6-12 days
Standby time variations:	
Radio + HS-5	up to 20 hours
Radio + IHF	up to 8 hours

Nokia measurements of the operational times in GSM 900 are

Talk time*	
Battery : BLD-3	up to 2 – 2.5hours
Talk time variations:	
Integrated Handsfree (IHF) talk time**	up to 1 h 45 min – 2 h 15 min
Standby time*	
Battery: BLD-3	up to 6-12 days
Standby time variations:	
Radio + HS-5	up to 20 hours
Radio + IHF	up to 8 hours

Nokia measurements of the operational times in GSM 1800 are:

Talk time*	
Battery: BLD-3	up to 3 – 6 hours
Talk time variations:	
Integrated Handsfree (IHF) talk time	up to 1 h 45 min – 3 h 45 min
Standby time*	
Battery: BLD-3	up to 6-12 days
Standby time variations:	
Radio + HS-5	up to 20 hours
Radio + IHF	up to 8 hours

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Nokia measurements of the operational times in GSM 1900 are

Talk time*	
Battery: BLD-3	up to 3 – 4 hours
Talk time variations:	
Integrated Handsfree (IHF) talk time**	up to 1 h 45 min – 3 h 45 min
Standby time*	
Battery: BLD-3	up to 6-12 days
Standby time variations:	
Radio + HS-5	up to 20 hours
Radio + IHF	up to 8 hours

*Variation in operating times may occur depending on SIM card, network and usage settings, usage style and environments. Talk time is increased by up to 30% if half rate is active and reduced by 5% if enhanced full rate is active. When testing MS battery life, it is initially assumed that the MS is a single band MS operating with the GSM FR speech codec and GPRS is not active.

ECTEL/TMS standard aims to provide an agreed and common means for quoting battery life and current consumption figures for GSM Mobile Stations. Comparable to the fuel consumption of current drain of the particular mobile phone given in mA.

Environmental conditions

Environmental condition	Ambient temperature	Notes
Normal operation	-10 °C ... +55 °C	Specifications fulfilled
Reduced performance	+55 °C ... +65 °C	Operational only for short periods
Intermittent operation	-20 °C ... -10 °C and +65 °C ... +85 °C	Operation not guaranteed but an attempt to operate will not damage the phone
No operation	-40 °C ... -20 °C	Operation not possible but an attempt to operate will not damage the phone
No operation or storage	< -40 °C and > +85 °C	No storage; an operation attempt may cause permanent damage
Charging allowed	-25 °C ... +60 °C	
Long term storage conditions	0 °C ... +40 °C	

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Transceiver features

Transceiver main HW parts / features include:

- EGPRS
- Integrated Stereo FM radio with external audio amplifier
- Full graphic Colour Display
- Jack IV style UI with two soft keys, 4 way scroll
- Integrated IR link & internal data
- Internal vibra
- Integrated Hands Free (IHF) Speaker
- Pop-Port(TM) System Connector
- Plug-in SIM card below the back cover of the phone
- Back-mounted antenna (no connection for external antenna)

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Electrical characteristics

Absolute maximum ratings

Parameter	Min.	Typical	Max.	Unit
Battery Voltage, Idle	-0.3		5.5	V
Battery Voltage, Call	-0.3		4.8	V
Charger Input Voltage	-0.3		16	V
Charging Current			850	mA

Supply voltages

Parameter	Min.	Typical	Max.	Unit / Notes
Battery Voltage	3.1	3.6	4.2	V / SW cut-off 3.1 V

Current consumption

Condition	Min.	Typical	Max.	Unit
Call (MoU) GSM 850/EGSM 900 GSM1800 GSM1900		 294 221 212		mA
Idle (MoU)		3-4		mA
Power off			50	µA

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